



An Affordable
Ethernet
Connection For
LocalTalk
Printers And
Other Devices

No Boundaries

NO LIMITS

EtherPrint

Ethernet to LocalTalk Bridge

User's Guide

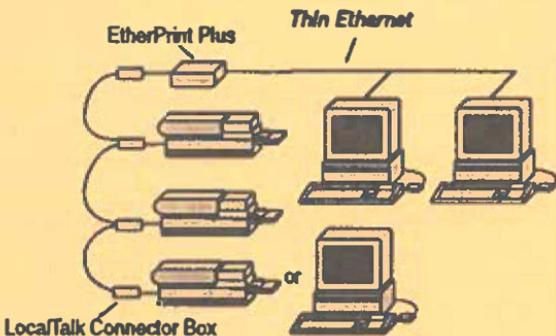


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EtherPrint Hardware Quick Tips

EtherPrint and EtherPrint *Plus* are bridges that let you connect LocalTalk printers and other devices directly to Ethernet networks. Here's a quick hardware installation summary. For more detailed procedures, we suggest you read Chapter 2.

- 1. Setting the Switch.** There are two switches on the EtherPrint back panel, but only Switch 1 is used. Switch 1 toggles between AppleTalk Phase 2 protocols (DOWN) and Phase 1 protocols (UP). Switch 1 is shipped in the DOWN position. Refer to the section **Setting the Switch** in Chapter 2 for more information.
- 2. Connect EtherPrint to the Network Cable System.** Connect EtherPrint to either thick or thin Ethernet or a 10BASE-T cable system. Refer to the section **Connecting EtherPrint to the Network** in Chapter 2.
- 3. Connect EtherPrint to LocalTalk Devices.** To connect a single device to EtherPrint, use the standard DIN-8-to-DIN-8 LocalTalk printer cable supplied with EtherPrint or the DIN-8-to-DB-9 Adapter Cable for older-style connectors. Plug one end of the cable into the LocalTalk port on the back of EtherPrint and the other end into the LocalTalk port on the printer.
If you are connecting more than one device to an EtherPrint, you must use LocalTalk connector boxes. You will need one LocalTalk box for EtherPrint and one for each connected device. Refer to the section in Chapter 2, **Connecting Multiple Devices to EtherPrint**, for more information.
- 4. Plug in EtherPrint to turn it on.** To power up EtherPrint, simply connect the AC adapter cord to the EtherPrint power port and then plug the AC adapter into an electrical outlet.
- 5. It works!** To verify that a single device is connected properly, log in to a Macintosh workstation, open the Chooser, select the printer, and print a document. To verify that multiple devices are working, open the EtherPrint Administrator Information window as described in Chapter 3.
- 6. Here's how it looks.** Here's one example of a network configuration using EtherPrint *Plus*. For other examples using EtherPrint and EtherPrint *Plus*, see the **Network Configurations** section in Chapter 2.



EtherPrint Software Quick Tips

EtherPrint includes software that provides management and control of the LocalTalk devices connected to it. EtherPrint Administrator lets you name EtherPrint, assign it to a zone, and give it a password. You can also use the EtherPrint Administrator and Securit software to control access to selected devices. Here are some Quick Tips to get you started.

EtherPrint Administrator

- 1. Using EtherPrint Administrator.** Insert the *EtherPrint Administrator Disk* in your Macintosh and launch EtherPrint Administrator. Click your network default zone and select the <Unnamed> EtherPrint in the list. Click the CONFIGURATION button to open the Configuration dialog box. Click the DONE button when you finish.
- 2. Naming EtherPrint.** Click the NAME button. Type in a name for EtherPrint of up to 19 characters. Click OK.
- 3. Changing EtherPrint's Zone.** Click the ZONE button. A window will open showing a list of Phase 2 zones to which EtherPrint can be assigned. Select a zone, and click OK.
- 4. Assigning a Password.** To assign a password to EtherPrint (securing access to Configuration information), click the PASSWORD button and enter a password. When you are finished, click OK.
- 5. Device Security.** To secure access to specific devices connected to EtherPrint, click the SECURIT button. Assign a password to any or all of the listed devices, and click OK.
- 6. EtherPrint Information.** Select an EtherPrint in the EtherPrint Administrator list, and double-click the name or click the GET INFO button to list the serial number, ROM version, zone, and EtherPrint name. This window also lists any devices attached to EtherPrint.

Securit

- 1. Installation.** Install Securit on every Macintosh that will need access to a password-protected device. Using the Installer on the *Securit Disk*, install Securit and launch it from the Control Panel. You can also pre-configure Securit on a floppy disk for multiple installations.
- 2. Accessing Devices.** To locate a LocalTalk device, click the SELECT button in the Securit window. Select the zone the device is in, and double-click the device name or click OK. The device will appear in the Select window and prompt you to enter a password. The password you enter must exactly match the case-sensitive password assigned within EtherPrint Administrator.
- 3. Changing Passwords or Removing Devices.** To change the password for a device on the list, select the device and click the CHANGE button. Change the password and click OK. To remove a device, select it and click the REMOVE button. You will be asked to confirm your decision. To remove the device, click OK.
- 4. Verifying Device Access.** If a device does not appear in the Chooser after you enter its password, check the password and reenter it within Securit. Remember, the password is case-sensitive.

EtherPrint

EtherPrint *Plus*

Version 2.0

User's Guide

Second Edition
First Revision
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Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

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Introduction

EtherPrint and EtherPrint *Plus* are bridges that let you connect LocalTalk printers and other devices directly to Ethernet networks. Version 2.0 is a major upgrade to these popular devices, that includes easier installation and start-up, more device support, and security software for managing EtherPrint and the LocalTalk devices connected to it.

The EtherPrint line supports both AppleTalk Phase 1 and Phase 2 protocols. This means that no matter how large your network becomes, EtherPrint lets all your Ethernet users access LocalTalk devices from any zone.

EtherPrint

EtherPrint works with *any* brand of LocalTalk-compatible network printer or other LocalTalk devices such as Macintosh computers and network modems. EtherPrint comes with a built-in BNC connector for thin Ethernet cable systems and an AUI transceiver connector for thick Ethernet or fiber-optic cable systems. EtherPrint-T comes with an RJ-45 connector to support 10BASE-T-compliant networks, and an AUI connector. EtherPrint-3 comes with all three types of network connectors: BNC, AUI, and 10BASE-T.

With version 2.0, EtherPrint supports up to two LocalTalk printers or other devices. It comes with a standard mini-circular DIN-8 connector, a DIN-8-to-DIN-8 LocalTalk printer cable, and an adapter cable to connect to LocalTalk printers with older-style DB-9 ports.

You can use printers connected to EtherPrint from any workstation running AppleTalk print services. From a Macintosh, EtherPrint lets you select the printer through the Chooser. From a PC workstation, you can print to EtherPrint devices using network print services available with products such as Farallon PhoneNET PC, TOPS, and NetWare for Macintosh.

EtherPrint *Plus*

EtherPrint *Plus* models work exactly like standard EtherPrint devices, except they support up to four LocalTalk printers or other devices. EtherPrint *Plus* has a BNC and an AUI port, while EtherPrint-T *Plus* has an RJ-45 connector and an AUI port. EtherPrint-3 *Plus* has all three Ethernet connectors (BNC, AUI and RJ-45) on one model.

Management Software

EtherPrint version 2.0 and later includes software that provides management and control over LocalTalk devices on your network.

The EtherPrint Administrator program allows you to assign EtherPrint a name, zone, and configuration password. You can also assign separate passwords to devices connected to EtherPrint. SecurIt, Dayna's new security protection software, provides access to password secured printers or other LocalTalk devices attached to EtherPrint. Secured devices do not appear in a Macintosh Chooser if SecurIt is not installed and configured with the correct password on that Macintosh.

Which Printers Can I Use With EtherPrint?

EtherPrint supports any LocalTalk-compatible network printer, including all Apple LaserWriter printers, and LocalTalk printers from vendors such as IBM, Hewlett-Packard, Texas Instruments, CalComp, QMS, Qume, Data Products, Compaq, and Cannon.

ImageWriter printers are not network printers unless they have a network access card installed. ImageWriter printers will only work with EtherPrint if they have a network access card. (You can purchase a network access card from your local dealer.)

How to Use This Guide

This guide describes how to install, use, and troubleshoot EtherPrint and EtherPrint *Plus*. It also explains how to use EtherPrint's security software to manage the LocalTalk devices on your network. It assumes that you have an installed, functioning network and a basic understanding of how to wire Ethernet and LocalTalk networks and use LocalTalk-compatible printers.

Chapter 1, **EtherPrint Devices, Cables, and Connectors**, describes EtherPrint and EtherPrint *Plus* devices and the cables and connectors used to attach them to the network.

Chapter 2, **Installing EtherPrint and EtherPrint Plus Hardware**, explains how to install and test EtherPrint and EtherPrint *Plus* on your network. It contains sample diagrams of network configurations using EtherPrint and EtherPrint *Plus* with different types of Ethernet media and different numbers of LocalTalk devices.

Chapter 3, **Using EtherPrint Administrator**, tells you how to give a name, zone, and configuration password to EtherPrint. It also explains how to find EtherPrint's ROM version and serial number.

Chapter 4, **EtherPrint Device Security**, need only be read if device security is important to you. It describes how to assign passwords to printers and other LocalTalk devices attached to EtherPrint. It also explains how to secure device access to password-protected

printers by installing and configuring SecurIt on individual Macintosh workstations.

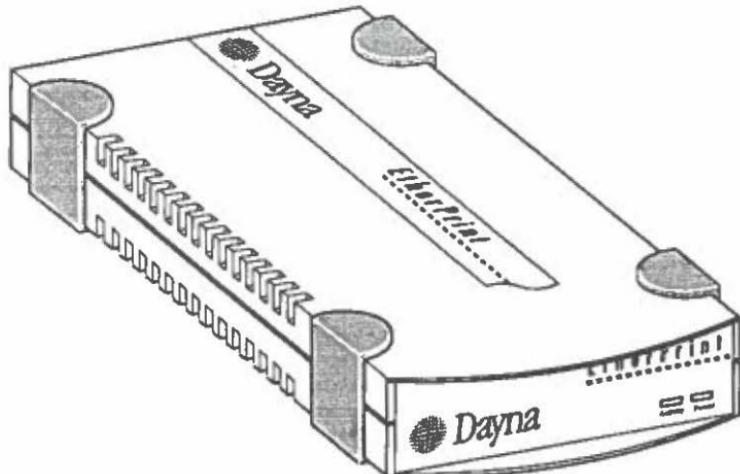
Chapter 5, **Solving Problems**, describes how to troubleshoot EtherPrint and EtherPrint *Plus*.

Appendix A, **Upgrading EtherPrint**, gives instructions a qualified service technician needs to upgrade an older EtherPrint with 1.x firmware to the new version 2.x that supports security software. It includes step-by-step instructions for upgrading the EtherPrint ROM, and gives detailed information about using EtherPrint security software with a newly upgraded EtherPrint.

Appendix B, **Testing EtherPrint With SendEcho**, tells how to use SendEcho to diagnose network problems. It explains how the SendEcho test utility works and how to interpret the information it provides.

Appendix C, **Service, Support, Sales, and Specifications**, explains how to get technical support from Dayna Communications for your Dayna products. It also provides technical data about EtherPrint.

This guide ends with a glossary and an index.



The EtherPrint Device

What You Get With EtherPrint

EtherPrint products come with the following components:

- EtherPrint or EtherPrint *Plus* device
- Two EtherPrint disks containing the SecurIt Installer, EtherPrint Administrator, and the SendEcho Utility
- AC Power Adapter
- DIN-8-to-DIN-8 LocalTalk Printer Cable
- DIN-8-to-DB-9 Adapter Cable
- *EtherPrint/EtherPrint Plus User's Guide* (including Warranty Registration Card and Quick Tips Card)

In addition, EtherPrint and EtherPrint *Plus* come with a BNC Y-connector for thin Ethernet cable connections. EtherPrint-T and EtherPrint-T *Plus* come with a 10BASE-T cable with an RJ-45 plug to connect to your 10BASE-T cable system. EtherPrint-3 and EtherPrint-3 *Plus* have both the Y-connector and the 10BASE-T cable.

Note—

Complete the warranty registration card and return it to Dayna Communications within 30 days to register the product for its lifetime warranty. Registered customers receive product updates and free issues of the Dayna Communiqué newsletter.

Chapter 1

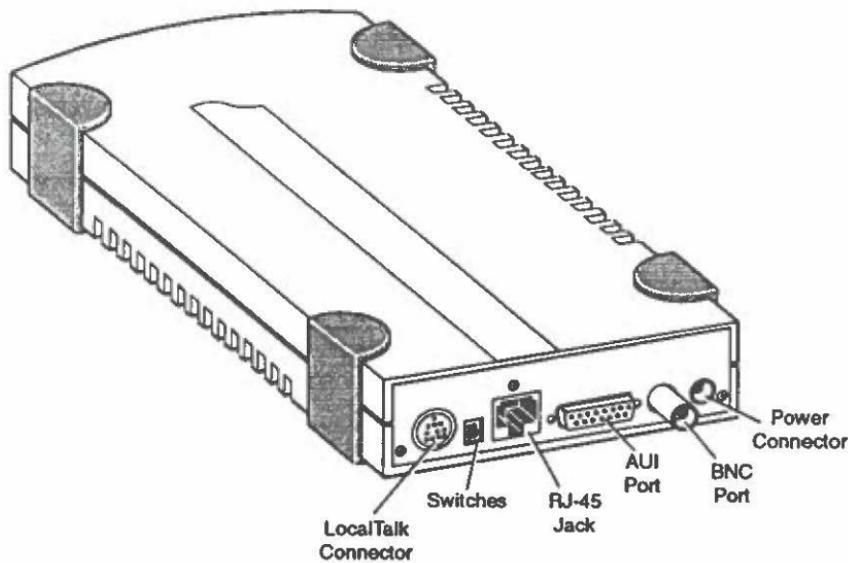
EtherPrint Devices, Cables, and Connectors

This chapter describes the EtherPrint family of devices and its cables and connectors.

EtherPrint is a bridge that converts EtherTalk protocols to LocalTalk protocols and vice versa so that AppleTalk devices can communicate freely on LocalTalk and Ethernet network cable systems.

The front panel has two lights labeled Activity and Power. The green power light is always on when EtherPrint is plugged in and off when it's not.

The yellow activity light verifies that the EtherPrint hardware is working, that EtherPrint is communicating with the network, and that data is being transmitted through the device.



EtherPrint-3 Back Panel

EtherPrint-3 and EtherPrint-3 *Plus* have an RJ-45 jack, an AUI port, and a thin Ethernet BNC port. EtherPrint and EtherPrint *Plus* have a BNC port and an AUI port.

EtherPrint-T and EtherPrint-T *Plus* have an AUI port, an RJ-45 jack, and a link status light. All models have a single LocalTalk port, a selectable switch bank, and a power connector.

Ethernet Address and Serial Number

Each EtherPrint device is assigned a unique 12-digit Ethernet address. The first six digits are always 008019 and identify Dayna Communications as the manufacturer. The second six digits are the unique numbers in the EtherPrint device's Ethernet address, and are also the device's serial number. You can find the serial number below the bar code on the label on the bottom of the device or within the Administrator as described in Chapter 3. This number identifies EtherPrint as a unique device. Please have it available if you need to call Customer Service.

EtherPrint Connectors and Cables

This guide uses the following terms to describe cables and connectors.

Thick Ethernet Cable

Thick Ethernet cable is usually half-inch yellow coaxial cable. Connections to thick Ethernet are made through the AUI port using an external transceiver.

Thin Ethernet Cable

Thin Ethernet cable is usually quarter-inch black coaxial cable, (identified by type such as RG-58/U) that uses a cylindrical BNC connector to attach to the BNC port on the EtherPrint back panel.

Fiber Optic Cable

Fiber optic cables transmit digital signals as light pulses. Fiber optic cable connections are made through the AUI port using an external transceiver.

LocalTalk Printer Cable

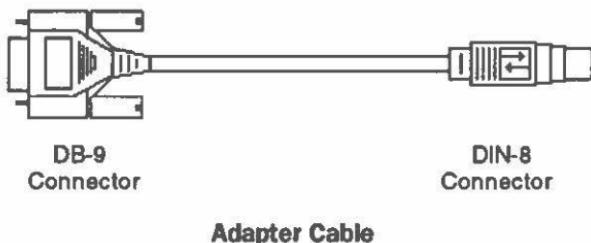
Each model of EtherPrint comes with a 3-foot DIN-8-to-DIN-8 cable to connect a single LocalTalk device that has a DIN-8 port.



LocalTalk Printer Cable

Adapter Cable

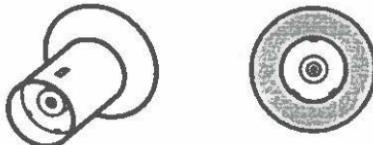
For older-model LocalTalk devices, the DB-9 to DIN-8 adapter cable has a DB-9 connector that attaches to a DB-9 port and DIN-8 cable. Here's what the adapter cable looks like.



Adapter Cable

BNC Connector

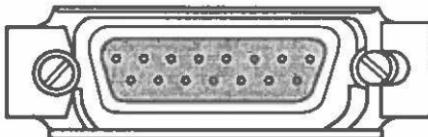
Thin Ethernet cables can use a T-shaped or Y-shaped connector to plug into the BNC port on the EtherPrint back panel.



BNC Port for Thin Ethernet Cable

AUI Connector

The Attachment Unit Interface (AUI) port on the EtherPrint back panel is a DB-15 connector that plugs into an external transceiver.



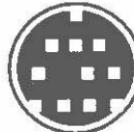
AUI Port

External Transceiver

External transceivers are needed to connect to thick Ethernet or fiber optic cables. The transceiver box usually connects to the Ethernet trunk line and uses a transceiver cable with an AUI connector to attach to devices such as EtherPrint.

LocalTalk Port

The EtherPrint LocalTalk port accepts a DIN-8 connector. If you're connecting a single LocalTalk printer, one end of the LocalTalk printer cable plugs into this port and the other end into the printer. If you connect multiple devices to EtherPrint and EtherPrint *Plus* you must use LocalTalk connector boxes and cables to daisy chain the devices together.



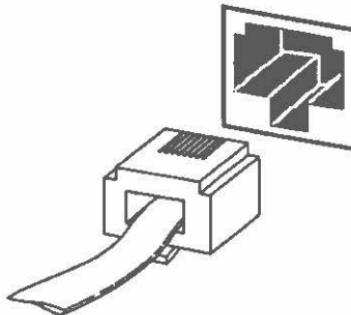
LocalTalk Port

Note—

Some printers, including printers from Hewlett-Packard, require LocalTalk connector boxes to work with EtherPrint because of the printer's impedance requirements.

EtherPrint-T Connectors and Cables

EtherPrint-T and EtherPrint-T *Plus* support 10BASE-T cable systems which use unshielded twisted-pair wiring with RJ-45 eight-conductor plugs at each end. The RJ-45 plug connects into the RJ-45 jack on the rear panel.



10BASE-T Plug and Jack

The link status light, located on the back panel above the RJ-45 port, remains lit when the 10BASE-T cable is plugged in correctly to a functioning 10BASE-T-compliant network.

10BASE-T Extension Cable

A 10BASE-T extension cable is provided with EtherPrint-T and EtherPrint-T *Plus*. One end plugs into the RJ-45 network connector and the other end connects to the network or plugs directly into a 10BASE-T Hub.

Chapter 2

Installing EtherPrint and EtherPrint Plus Hardware

Here's how to install all models of EtherPrint and EtherPrint *Plus*. Unless otherwise specified, these instructions use the term EtherPrint to refer to the entire family of devices.

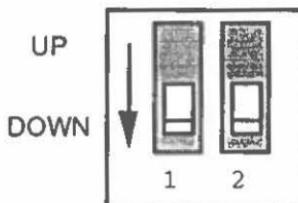
- Set Switch 1 on the EtherPrint back panel
- Connect EtherPrint to the Ethernet network cable system
- Connect EtherPrint to the printer or other LocalTalk devices
- Turn on EtherPrint and the devices attached to it

Note—

EtherPrint's innovative address mapping scheme lets you start up EtherPrint and the devices attached to it in any order. It is not necessary to turn off a connected printer, for example, before powering up EtherPrint.

Setting the Switch

There are two switches on the EtherPrint back panel, but only Switch 1 may need adjustment. Switch 2 has no function. As shipped from the factory, Switch 1 is in the DOWN position.



EtherPrint Switch Bank

Switch 1 lets you toggle between AppleTalk Phase 2 protocols (DOWN) and Phase 1 protocols (UP). Change the switch to the UP position if you are running Phase 1 protocols.

If you would like a complete explanation of AppleTalk protocols to determine which AppleTalk version your network uses, refer to Chapter 3.

Connecting EtherPrint to the Network

Once you've checked the switch setting on the back panel, you're ready to connect EtherPrint to the network.

Note—

You can only connect EtherPrint to one type of cable system at a time. For example, don't connect EtherPrint to a thin Ethernet cable and a thick Ethernet transceiver at the same time.

Using the BNC Connector

Here's how to connect EtherPrint to a thin Ethernet cable.

1. Attach one arm of the BNC Y-connector to the thin Ethernet cable. If the printer is the last device on the cable, make sure you put a terminator on the other arm of the Y-connector.
2. Attach the Y-connector to the BNC port on the EtherPrint back panel.

Using the AUI Port

The AUI port is a connector for a transceiver cable that connects EtherPrint to an external transceiver. The transceiver can connect to a variety of Ethernet cable systems. Here's how to connect a transceiver cable to the AUI port.

1. Attach the transceiver to the Ethernet cable system. Plug the transceiver cable into the transceiver.
2. Push the slide latch on the EtherPrint AUI connector to the right to unlock it. Plug the transceiver cable connector into the AUI port.
3. Push the AUI slide latch to the left to lock the connector in place.

Using the RJ-45 Jack

To connect EtherPrint to a 10BASE-T network cable, simply insert the 10BASE-T extension cable plug into the RJ-45 jack on the back of EtherPrint. When EtherPrint has a working connection to the network hub, the link status light located above the jack lights up.

Connecting EtherPrint to the Printer

When you connect EtherPrint to a printer, remember, it is not necessary to switch off the printer's power before powering up EtherPrint. You can connect EtherPrint to a LocalTalk printer using the printer cable, the adapter cable, or LocalTalk connector boxes.

Using the Printer Cable

In most cases, you can connect EtherPrint to a LocalTalk-compatible printer using the DIN-8-to-DIN-8 LocalTalk printer cable supplied with EtherPrint. Just plug one end of the printer

cable into the DIN-8 port on the back of EtherPrint and the other end into the DIN-8 port on the printer.

Using the Adapter Cable

Some LocalTalk printers use a DB-9 connector instead of a DIN-8 connector. If you have such a printer, use the adapter cable to connect the printer to the printer cable. Here's how.

1. Connect the DIN-8 connector on the LocalTalk printer cable to the DIN-8 connector on the adapter cable.
2. Plug the DIN-8 connector on the printer cable into EtherPrint.
3. Plug the DB-9 connector on the adapter cable into the printer.

Using LocalTalk Connector Boxes

LocalTalk connector boxes must be used when connecting multiple devices to EtherPrint. Also, some non-Apple printers, such as Hewlett-Packard printers, won't work with EtherPrint unless you connect them using LocalTalk connector boxes. Here's how to use LocalTalk connector boxes.

1. Start with the correct number. You will need one connector box for EtherPrint and one for each device you are connecting.
2. Plug a LocalTalk connector box into the DIN-8 port on the back of EtherPrint and a connector box into the DIN-8 port on the printer.
3. Use a LocalTalk cable to link the connector boxes.

If you choose to use PhoneNET connector boxes, make sure to terminate them correctly.

Connecting Multiple Devices to EtherPrint

You can connect EtherPrint models to a maximum of two LocalTalk devices. EtherPrint *Plus* models support up to four LocalTalk devices.

EtherPrint and Routers

You can connect all LocalTalk devices (including workstations, printers, and network modems) to EtherPrint, except for routers or devices that perform routing functions. For instance, LocalTalk network modems that include routing capabilities (such as the Shiva NetModem V.32) cannot be accessed from the Ethernet side of EtherPrint.

Using EtherPrint With PhoneNET Cables

If you're using Farallon PhoneNET cables to connect your LocalTalk printers, make sure to follow their termination instructions to terminate the first and last LocalTalk devices.

Powering Up EtherPrint

Because EtherPrint is truly a "plug-and-play" product, you can power up EtherPrint and the LocalTalk devices attached to it in any sequence. You can even connect devices while their power is on.

Connect the AC adapter cord to the EtherPrint power port and then plug the AC adapter into an electrical outlet. This turns on EtherPrint. The yellow activity light should blink once and will remain on unless a connected device is powered on. If the activity light blinks repeatedly, refer to the next section, **Understanding the Activity Light**, for help in diagnosing the problem.

Note —

When an EtherPrint is connected to more than one device, the activity light only comes on after EtherPrint has acquired all the network addresses it needs. If you're installing EtherPrint on a large Phase 1 network and the activity light fails to come on, consider upgrading to AppleTalk Phase 2, which lets you assign more network numbers to create more AppleTalk addresses. If you need more AppleTalk addresses on Phase 2, simply extend your cable range to allow more network numbers.

When EtherPrint recognizes the printer, the activity light will turn off momentarily and then flash when there is network activity.

Understanding the Activity Light

The yellow activity light on the front of EtherPrint is used to verify that the EtherPrint hardware is working, that EtherPrint can communicate with the LocalTalk devices, and that data is being transmitted through the devices.

If the activity light remains flashing before the printers are switched on, this is an error code. If it flashes after you switch the printers on, this indicates network activity.

Upon power up, the activity light should blink once and then remain on until EtherPrint can communicate with the LocalTalk devices. If the activity light blinks rhythmically before the printers are switched on, this indicates a hardware problem. Call Dayna Customer Service for assistance.

If the activity light remains on without flashing for more than 30 seconds after a printer initializes and prints a test page, check the cables.

Using IBM PCs or Compatibles With EtherPrint

You can use IBM PCs or compatibles with EtherPrint on any network operating system (such as Farallon PhoneNET PC, TOPS, or NetWare for Macintosh) that provides AppleTalk print services over Ethernet. To learn how to set up these print services, refer to your network documentation.

Testing EtherPrint Installation and Setup

You can verify that EtherPrint has been set up correctly by opening the EtherPrint Information window and seeing if it lists your LocalTalk devices. You can access this window by clicking the GET INFO button within EtherPrint Administrator as described in the section, **Verifying Information Within the Information Window**, in Chapter 3. EtherPrint is working correctly if the window lists all the LocalTalk devices you have connected.

To verify that EtherPrint works with printers, make sure you've selected the EtherTalk driver in the Network control panel on your Macintosh, open the Chooser, select a printer attached to EtherPrint, and print a document. If the printer doesn't appear in the Chooser, refer to Chapter 5 for troubleshooting procedures.

To verify that EtherPrint works with network modems, open the Chooser from a Macintosh workstation on the Ethernet cable, and verify that the modem appears in the list of available devices. Access the network modem and make a remote connection with it.

To verify that EtherPrint works from a PC workstation, set up the network and application print services to support the printer connected to EtherPrint and print a file. Refer to your network and application documentation for details.

If you can't see any of the devices connected to EtherPrint in the Chooser, you can use SendEcho to diagnose the problem. For detailed information, see Appendix B, **Testing EtherPrint With SendEcho**.

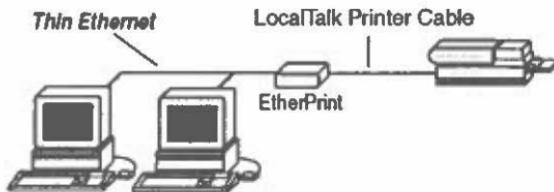
Removing EtherPrint

To remove EtherPrint from your network, unplug the AC adapter from the electrical outlet and remove the cables that connect EtherPrint to the printer.

Network Configuration Examples

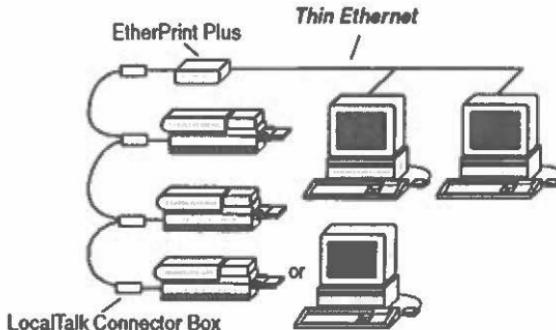
The following diagrams show different ways to connect EtherPrint and EtherPrint *Plus* to your network with different types of Ethernet media. Follow the instructions that come with your LocalTalk connector boxes to make sure that all devices, connectors, and cables are installed properly.

In the first example, EtherPrint is used to connect one printer to a thin Ethernet backbone. Notice that no LocalTalk connector boxes are required. Use the LocalTalk printer cable supplied with EtherPrint.



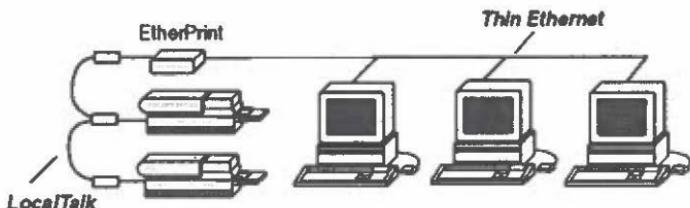
EtherPrint Connected to One Device

The next example shows EtherPrint *Plus* connecting a group of three LocalTalk printers or Macintosh computers to a thin Ethernet backbone. When EtherPrint is connected to more than one device, LocalTalk connector boxes must be used.



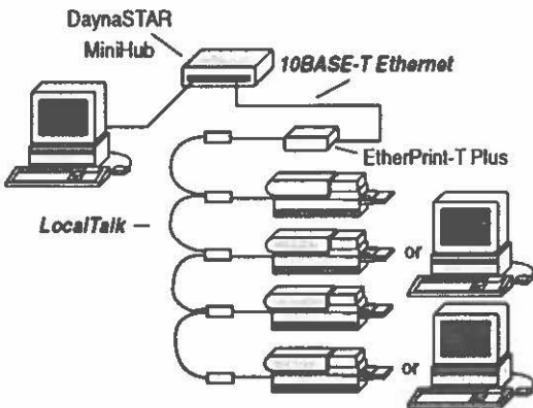
EtherPrint *Plus* with Thin Ethernet

Next, EtherPrint is used to connect two LocalTalk devices to a thin Ethernet network.



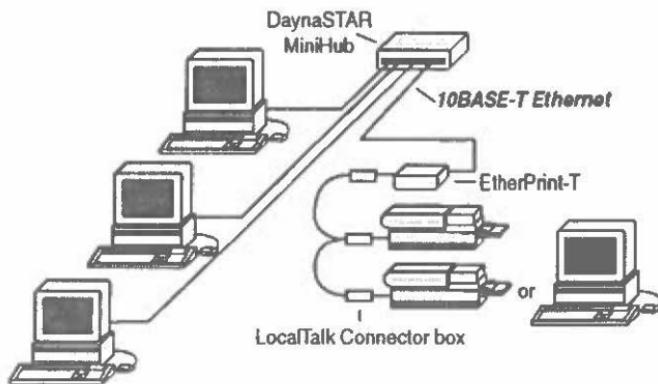
EtherPrint with Thin Ethernet Network

In this example, EtherPrint-T *Plus* is used to connect four LocalTalk devices to a 10BASE-T network.



EtherPrint-T *Plus* with Twisted-Pair Network

In the final example, two LocalTalk devices are connected to 10BASE-T Ethernet using an EtherPrint-T.



EtherPrint-T with Twisted-Pair Network

The LocalTalk devices you connect to EtherPrint make up a LocalTalk "subnet." These devices communicate exactly like devices on any other LocalTalk network using LocalTalk connector boxes and cables. Devices on the Ethernet side of EtherPrint can access any device on the LocalTalk side of EtherPrint, and vice versa.

Chapter 3

Using EtherPrint Administrator

EtherPrint Administrator is a tool designed to help you configure and manage your EtherPrint devices. This chapter describes how to use EtherPrint Administrator to name, password-protect, and get information about EtherPrint. It also discusses AppleTalk Phase 1 and Phase 2, and how to change AppleTalk Phase 2 zones.

Identifying Which Protocol Your Network Uses

AppleTalk supports two EtherTalk protocols, Phase 1 and Phase 2. Under Phase 1, AppleTalk assigns network devices to zones based on their *physical* network connections. Phase 2 lets you assign devices such as printers to multiple *logical* zones, so that printers connected to the same physical cable can service different zones.

If you're using Phase 1 protocols, this icon will appear in the Network control panel. To locate the Network control panel, select Control Panels in the Apple (●) menu of any Macintosh on an Ethernet network, and double-click on the Network icon.



EtherTalk

If you're using Phase 2 protocols, an icon with two arrowheads will appear in the Network control panel.



EtherTalk

If the network uses AppleTalk Phase 2 protocols, any device connected to EtherPrint will always appear on startup in the default zone that you defined when you set up the Phase 2 internet router.

Running EtherPrint Administrator

The EtherPrint Administrator program is found on the *EtherPrint Administrator Disk*. To run the program, you must know which zone the EtherPrint device will be assigned to. Although you don't need to run the Administrator from a Macintosh connected to the same cable segment as EtherPrint to assign it a name, zone location, and configuration password, to protect the integrity of

your network, you will not be able to reconfigure zone locations when a router is located between the Macintosh and EtherPrint.

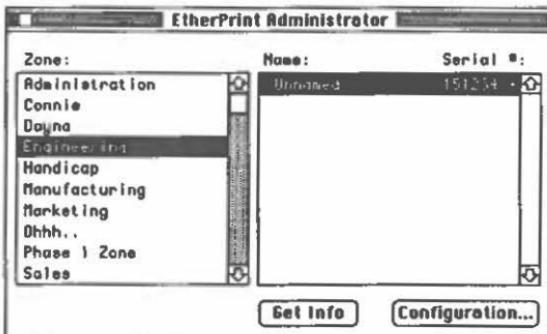
The information provided below is applicable to all versions of EtherPrint, including EtherPrint *Plus*.

Insert the *EtherPrint Administrator Disk* in your Macintosh and double-click the disk icon. You can copy EtherPrint Administrator to your hard drive or run it from the floppy disk. Next, double-click the EtherPrint Administrator icon.



EtherPrint Administrator

A message box saying "Looking for EtherPrint Devices, Please Wait" will appear until this window opens.



The ZONE list shows the zones on your network. The NAME list shows the names of all the EtherPrint devices located in the zone selected in the ZONE list. The SERIAL NUMBER list shows the device's serial number.

Note—

All LocalTalk devices are assigned to the same zone as the EtherPrint device to which they are connected.

If you have an EtherPrint version 1.x currently on your network, it will appear in the EtherPrint Administrator window as "EP 1.0."

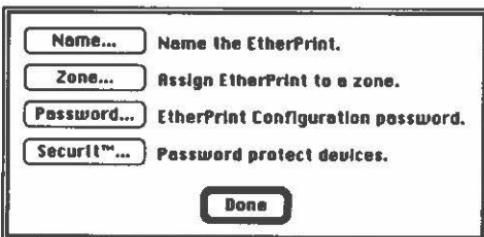
Serial numbers followed by a plus sign (+) indicate the device is an EtherPrint *Plus*. Serial numbers without the plus identify a standard EtherPrint.

Click the GET INFO button or double-click a selected EtherPrint to access specific EtherPrint information. The information includes EtherPrint's name, serial number, ROM version, and zone, and

lists any devices currently connected to your EtherPrint. Refer to the section later in this chapter, **Verifying Information Within the Information Window**, for more details.

Configuring EtherPrint for the First Time

Once EtherPrint is connected, it appears in your network's default zone as <Unnamed>. To configure your new EtherPrint, select it and click the **CONFIGURATION** button to open the Configuration dialog box.



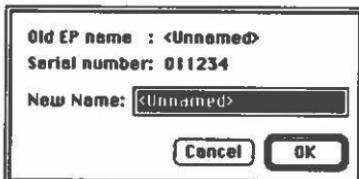
Use the first three buttons, NAME, ZONE, and PASSWORD, to give EtherPrint a name, assign it to a zone, and give it a configuration password. The fourth button, SECURIT, is used to assign unique passwords to individual LocalTalk devices connected to EtherPrint. Chapter 4, **EtherPrint Device Security**, explains how to use Securit.

Note

EtherPrint Administrator is provided with EtherPrint 2.x, and is compatible with EtherPrint 1.x. However, you will only be able to use it to change EtherPrint's zone location. The NAME, PASSWORD, and SECURIT buttons in the Configuration dialog box will be grayed out. Upgrading EtherPrint from 1.x to 2.x requires a ROM change. Call Customer Service for details.

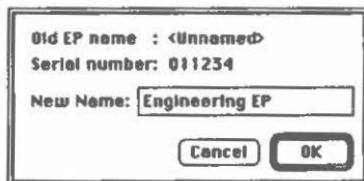
Naming EtherPrint

Click the NAME button. This window contains the EtherPrint name and serial number. The old EtherPrint name will read <Unnamed> until you assign EtherPrint a new name.



Type in a name for EtherPrint in the New Name box. It's a good idea to choose a name that represents EtherPrint's location, or

other identifying characteristics, to help you more easily administer the devices connected to it. The name you select can consist of up to 19 characters.



After you type the name, click OK.

Changing EtherPrint Phase 2 Zone Assignments

When you install EtherPrint, the device initially comes up in the default zone. EtherPrint Administrator lists the zones the EtherPrint device can "see," and lets you change the Phase 2 zone to which an EtherPrint device is assigned. Here's how.

1. Click the ZONE button in the Configuration dialog box. A window will open showing the name of the device and a list of the Phase 2 zones to which it can be assigned.

Note—

If a zone is assigned to a different physical segment, it is not valid for EtherPrint. Only valid zones will appear in this list.



2. Select the zone to which you want to assign EtherPrint, and click OK.

Note—

Because Phase 1 does not support multiple logical zones, you can only use this feature of the Administrator on Phase 2 networks. If you're on a Phase 1 network, the ZONE button will be grayed out. Even if you don't use Phase 2 zones, you can use the Administrator to identify the EtherPrint serial number and ROM version number, name EtherPrint, and assign it a password. Also, use the Administrator to verify that all LocalTalk devices are attached to EtherPrint correctly.

The Default Zone

You will always see a zone named <default> in the Zone dialog. The default zone is created during router installation and is one of the named zones. It will be listed by both its own name and as <default>. For example, if Test Zone is the default zone, it is listed twice in the ZONE list, as Test Zone and as <default>.

If you assign EtherPrint to the default zone, it always remains in the default zone, even if you change the default zone. If you assign EtherPrint to a named zone, it always remains in the named zone, unless you delete the named zone containing the EtherPrint device, in which case EtherPrint reverts to the default zone.

For example, assume that Manufacturing is the default zone. If you assign the EtherPrint device to the default zone, it will be in Manufacturing. If you change the default zone to Sales, the EtherPrint device is now assigned to Sales.

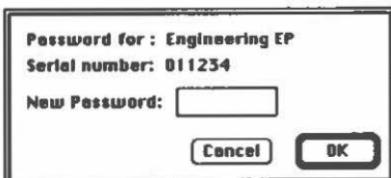
If you assign the EtherPrint device to Engineering, EtherPrint will remain in Engineering as long as it is a valid zone.

Note—

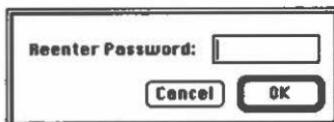
Remember, if EtherPrint comes up in an invalid zone, it reverts to the default zone.

Assigning a Password to EtherPrint

It is possible to password-protect access to the Configuration dialog box for your EtherPrint; however, you don't need to assign EtherPrint a password if this doesn't suit your needs. To assign a password to EtherPrint, click the **PASSWORD** button in the Configuration dialog box.



Enter a password for EtherPrint and click **OK**. The password can consist of up to eight characters and is case-sensitive. Reenter the password.



Once you have assigned a password to your EtherPrint, you must know the password to access the Configuration dialog box in the future. Click **OK**.

To change an existing password, you should follow the procedure above. However, you will first be asked to enter your old password before you can assign a new one. It's a good idea to record your password in a safe place. See the **Solving Problems** chapter for information on what to do if you forget your password.

Reinitializing EtherPrint

If you do not choose to use the security feature now, press the **DONE** button in the Configuration dialog box. EtherPrint will reinitialize using the newly entered data. This process will take about twenty seconds.

Verifying Information Within the Information Window

Once you have accessed the EtherPrint Administrator and selected a device, double-click it, or click the **GET INFO** button to open the Information window.

EtherPrint Plus Information	
Name :	Ethernet EP
Serial #:	1602RF
ROM Version #:	2.0
Zone:	Test Zone
Connection 1:	Technical Support LaserWriter
Connection 2:	DeskWriter 550C
Connection 3:	EMerman
Connection 4:	ColorPoint PSH

This window lists the EtherPrint serial number (which is also the last six digits of the device's Ethernet address), the EtherPrint ROM version number, the zone the EtherPrint is assigned to, and the name of the EtherPrint.

The EtherPrint Information window also lists all LocalTalk devices connected to the EtherPrint in up to four CONNECTION fields. If all the LocalTalk devices appear in the window, they are attached correctly. If there are fewer than the allotted number of devices attached to the EtherPrint, the extra field will be left blank.

Chapter 4

EtherPrint Device Security

This chapter discusses the SecurIt device protection software. It explains how to use SecurIt with EtherPrint Administrator to secure LocalTalk device access on your network.

SecurIt

SecurIt is a security protocol that requires EtherPrint to request a password from a Macintosh on the network before it will allow access to any password-protected LocalTalk device attached to it. Each device connected to EtherPrint can be assigned a separate password. A Macintosh computer with SecurIt installed will be able to see and select secured laser printers or other LocalTalk devices attached to EtherPrint. Macintosh computers without SecurIt installed will not even see password-protected devices in the Chooser.

When to use EtherPrint Security

SecurIt allows you to restrict access to printers or other devices exclusively to authorized individuals or groups. The ability to secure access to LocalTalk printers and other devices can be very important. For example, password-protection might be an important feature for administrators of an educational facility to control access to specific printers, such as LaserWriters, that are off limits to students. Certain departments in corporations may want to restrict access to specialized devices such as color printers. Whatever your need to control or limit access, SecurIt makes it easy.

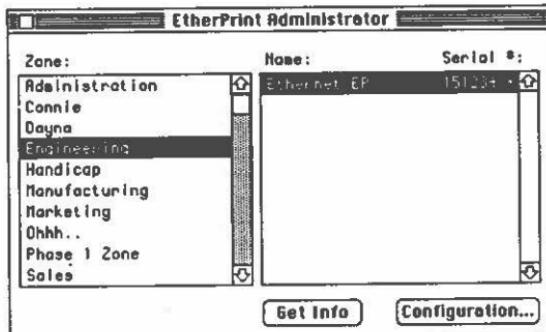
Configuring SecurIt Within EtherPrint Administrator

Using SecurIt begins within EtherPrint Administrator. Here's how. Double-click the EtherPrint Administrator icon on the *EtherPrint Administrator Disk*.



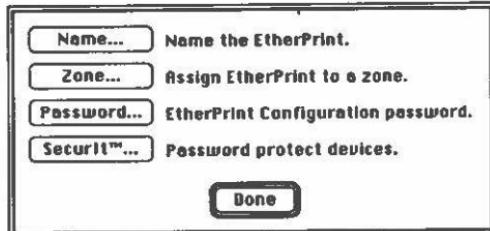
EtherPrint Administrator

A message box saying "Looking for EtherPrint Devices, Please Wait" will appear until the EtherPrint Administrator window opens.



Click the zone location of the EtherPrint that is connected to the LocalTalk device(s) that you want to secure. Select the name of the EtherPrint you want, and click the CONFIGURATION button.

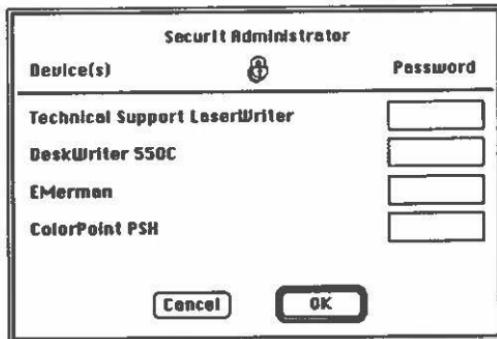
If you have assigned a configuration password to this EtherPrint previously, you will be asked to enter it now. If you enter the password correctly, this dialog will appear.



Now you are ready to secure the LocalTalk devices attached to EtherPrint.

Assigning Passwords to LocalTalk Devices

Click the SECURIT button. The SecurIT Administrator dialog will open listing all of the devices currently connected to that EtherPrint. Notice the empty password field next to each device.



You can assign an eight-character, case-sensitive password to each of the devices in the window simply by using the TAB key to move through the password fields or clicking at the beginning of each field. The password for each device is displayed in the box and can be edited by anyone with access to the Configuration window.

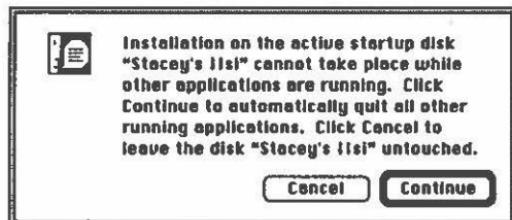
If you use EtherPrint Administrator to password-protect any LocalTalk devices, you must install SecurIt on every Macintosh that needs access to those devices.

Note—

If you have upgraded your EtherPrint ROM version 1.x to 2.x, read Appendix A before you install SecurIt for special instructions.

Installing SecurIt

SecurIt installation requires you to restart your Macintosh, so you should not launch the Installer while running other applications. If you do, the Installer will let you terminate the installation or exit from the application and continue the installation.



Under some conditions, the Installer will display this message even though you're not running any other applications. In this case, simply click CONTINUE.

Before you begin installing SecurIt, decide which Macintosh computers on your network will need to access the devices you secured when configuring EtherPrint.

Note—

It is not necessary to install SecurIt on every Macintosh for normal printer access. SecurIt should only be installed and configured on Macintosh workstations that need access to a password-protected LocalTalk device.

Running the Installer

Here's how to install SecurIt.

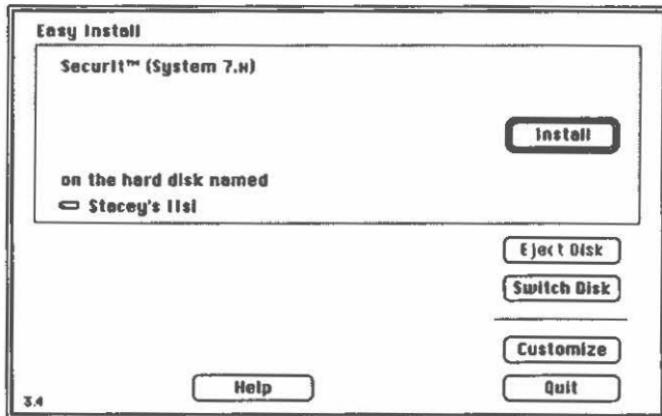
1. Start up the Macintosh. Insert the *SecurIt Disk* in the Macintosh disk drive and the disk will open.
2. Double-click the Installer icon, which looks like this.



3. The SecurIt Installer screen will open.



Click OK and the Easy Install dialog box will open.

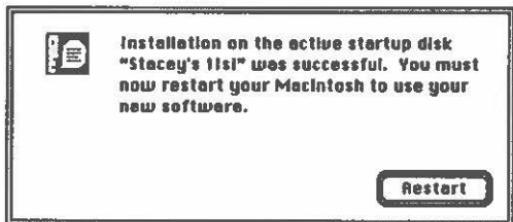


Make sure the dialog box shows the disk on which you want to install SecurIt. (Click SWITCH DISK if you want to install SecurIt on another disk.) Click the INSTALL button.

Note—

*The Easy Install option supports all EtherPrint devices. You can use the Installer's Customize option to remove the EtherPrint software as described in the section **Removing SecurIt** at the end of this chapter.*

4. While the installation takes place, the Installer displays a status dialog.
5. When SecurIt is completely installed, the Installer displays this message.



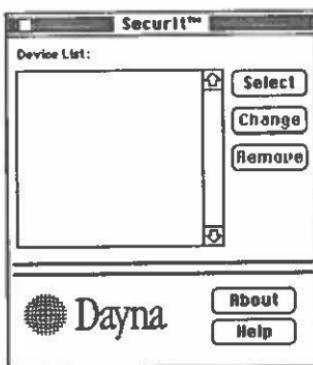
6. Click RESTART. The Installer will restart your Macintosh. Now you're ready to configure SecurIt.

Launching and Configuring SecurIt

To provide access to a password-protected device from a Macintosh workstation, open the Control Panel and double-click the SecurIt icon.

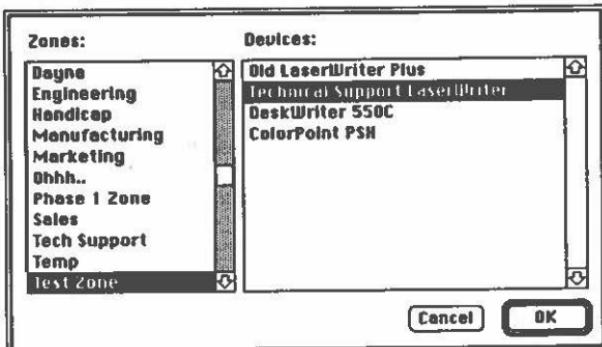


The SecurIt window will open. Until a device is selected in the device list, the CHANGE and REMOVE buttons will be gray and inaccessible.

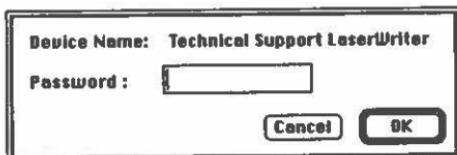


Selecting Devices

Once you have opened SecurIt, you will need to select any password-protected devices that this Macintosh can access. To do this, click the SELECT button in the SecurIt window, and the Lookup Devices dialog will open.



Select the appropriate zone and a listing of all LocalTalk devices attached to an EtherPrint within the zone will appear. You can access a device by double-clicking, or selecting it and clicking OK. This will return you to the Select dialog box. It is here that you must enter the correct password exactly as it was assigned within EtherPrint Administrator.



Type in the correct password and click OK. The device name will appear in the SecurIt device list.



Repeat this procedure for as many devices as you would like to access.

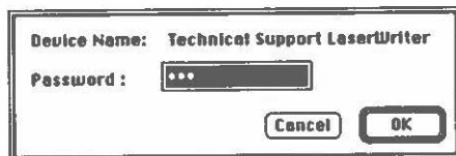


To verify that you have entered the password correctly and have access to the device, close the SecurIt window and open the Chooser. If the newly added device does not appear on the Chooser list, verify the password and reenter it into SecurIt. Remember, the password is case-sensitive.

Changing Passwords for Devices

If you need to change the password of a device on your lists because its password has changed, here's how.

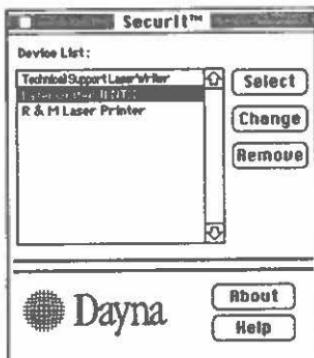
Select the device you would like to change by double-clicking its name, or selecting the device and clicking the CHANGE button.



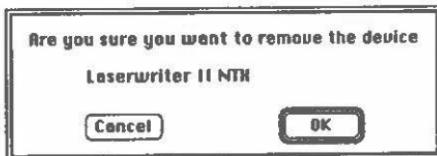
The Change dialog displays the device name and the existing password. Gray dots represent the actual word. Change the device password by typing over the existing password. Click OK.

Removing a Device

To remove a device from the SecurIt device list, first highlight the device you want to remove.



Click the REMOVE button. SecurIt will issue a warning dialog to confirm your decision to remove the device from the list. Click OK.



When you remove a password-protected device from SecurIt's device list, you will no longer be able to see the device listed in your Chooser and access will be completely cut off.

Installing SecurIt on Multiple Workstations

Here's how to install SecurIt on several computers requiring access to the same password-protected device list.

1. Unlock the *SecurIt Disk* and insert it in a Macintosh. Enlarge the window to locate the SecurIt icon.

2. Double-click the SecurIt icon (instead of the Installer icon).
3. Select devices and assign passwords just like the SecurIt instructions describe, only do it on the disk instead of your hard drive.
4. Insert this disk into each Macintosh requiring identical access privileges, and use the Installer to install SecurIt.
5. Repeat this procedure on every Macintosh needing access to password-protected devices.

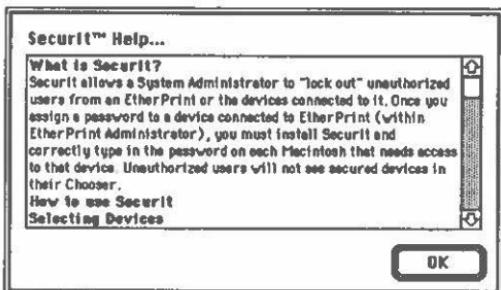
Note—

If you need to create more than one pre-configured copy of SecurIt, do so by duplicating the SecurIt Disk. The copy must be exact.

SecurIt Help

SecurIt comes with an on-line help system designed to provide information and immediate answers to your questions.

Help is accessible through the SecurIt window. To start Help, simply click the HELP button in the SecurIt dialog box to open this window.



Scroll through the menu for help when configuring SecurIt, including selecting, changing, and removing devices.

Removing SecurIt

You can remove SecurIt by dragging it out of your System Folder, or you can remove SecurIt from a system using the Installer on the *SecurIt Disk*. Here's how.

1. Launch the Installer. The Easy Install dialog box will open. Note the version of SecurIt that you have installed (6.x or 7.x) and click CUSTOMIZE.
2. The Custom Install dialog box will open. Select the version of SecurIt installed on your machine.

3. Hold down the **OPTION** key. The **INSTALL** button will become a **REMOVE** button. Click the **REMOVE** button and the SecurIt software will be removed from your system. You'll get a message that the removal was successful and you need to restart your Macintosh. Click **RESTART**.

Chapter 5

Solving Problems

This chapter explains some general EtherPrint troubleshooting procedures and then poses questions that present typical EtherPrint problems and solutions.

Check Power Connections

As a first troubleshooting step, always check cable and power connections to determine if they are the source of the problem. Make sure the power supply is securely plugged into the EtherPrint and the appropriate outlet. If you use a power strip, make sure it is switched on and, if necessary, reset the surge protection button. Check the power and cable connections to your LocalTalk devices also.

Run EtherPrint Administrator

Next, run the EtherPrint Administrator and make sure you can find the EtherPrint name and serial number displayed in the correct zone. Finally, use the Chooser to select the printer connected to EtherPrint and print a page.

Router Misconfiguration

Many EtherPrint troubles are related to improperly configured routers. Make sure all routers on the EtherPrint device's cable segment use the same configuration information used on that segment, specifically the same cable range, zone list, and default zone. Make sure that you don't assign the same cable range to different cable segments. Your router documentation describes how to set up and change its configuration information. When troubleshooting router problems, remember that a NetWare 3.11 server, with NetWare for Macintosh, functions as a router. This is a common source of AppleTalk network grief.

With multiple printers on the network, make sure they have different names, regardless of whether they're attached to EtherPrint. For example, don't name two printers "LaserWriter II NTX." Two printers with the same name will cause a network conflict.

The following questions and answers address possible EtherPrint problems in a logical order, so you may want to review the entire sequence to identify the correct solution to your problem. If the problem persists or is clearly a hardware failure, contact Dayna Customer Service at (801) 269-7200.

When I turn on EtherPrint, neither the activity light nor the power light comes on. Why?

Make sure that the AC adapter is connected to EtherPrint and the adapter is plugged in. Check the power to the plug by trying another plug, or plugging something that is working properly into the questionable plug. If the problem persists, you may have a problem with EtherPrint or the AC adapter. Call Customer Support.

When the printer is off, and I turn on EtherPrint, the yellow activity light continually flashes or shuts off completely. What's wrong?

If you're using a router on your network, check your router configuration. Restart EtherPrint by unplugging the AC adapter and plugging it in again.

When I turn on EtherPrint, the yellow activity light stays on after I switch the printer on and it prints the test page. Why?

After the printer starts up, make sure you've waited long enough for the printer to establish communications with the network—30 seconds after the test page is printed should be long enough. If the activity light remains on, turn off EtherPrint and the printer and check the cables. Restart EtherPrint and the printer.

When an EtherPrint is connected to more than one device, the activity light only comes on after the EtherPrint has acquired all the network addresses it needs. If you're installing EtherPrint on a large Phase 1 network and the activity light fails to come on, consider upgrading to AppleTalk Phase 2, which lets you assign more network numbers to create more AppleTalk addresses. If you need more AppleTalk addresses on Phase 2, simply extend your cable range to allow more network numbers.

Why does the link status light on the back of EtherPrint-T fail to light up when I connect it to a 10BASE-T network?

The link status light indicates that there is a valid cable connection between the EtherPrint-T and the hub. Make sure the plug is completely seated in the RJ-45 jack. Make sure the cable is connected to the hub, and that EtherPrint has power. Try a different 10BASE-T cable or a different port on the hub.

Why can't I see my EtherPrint serial number in EtherPrint Administrator?

Check that you've selected the correct zone in EtherPrint Administrator. If the Macintosh is connected to an EtherTalk network, open the Network control panel and make sure you've selected EtherTalk. Make sure your routers are configured correctly. Check that Switch 1 is in the UP position if you're using

AppleTalk Phase 1 protocols, and in the DOWN position if you're using Phase 2 protocols. If you change the Switch 1 setting, restart EtherPrint.

EtherPrint starts up normally, but my LocalTalk printer doesn't appear in the Chooser. Why?

Make sure you can see the EtherPrint serial number within EtherPrint Administrator. If you can't, follow the instructions in the previous answer. If you're looking for an ImageWriter, make sure it has a network access card installed. (You can purchase a network access card from your local dealer.) Also, confirm that the password entered for the device within the SecurIT control panel matches the password that is assigned to the printer within EtherPrint Administrator.

My serial number appears as F's (FFFFF) or zeros (000000) within EtherPrint Administrator. What's wrong?

If your serial number appears in the EtherPrint Administrator window as FFFFFF or zeros, contact Customer Service.

Why does my printer disappear and reappear in the Chooser? This probably indicates a router configuration problem. See the router configuration discussion at the start of this chapter. The problem could also be due to defective cable connections.

Why does EtherPrint jump from zone to zone?

Typically, your routers' zone list and default zones don't agree. See the router configuration discussion at the start of this chapter.

I've installed a new router on my network and can no longer find my printer in the Chooser. What's wrong?

Restart EtherPrint. Make sure you're looking in the correct zone for the printer.

Why can't I get my ImageWriter printer to work with EtherPrint? Since ImageWriter printers don't come with LocalTalk built in, they require a network access card to work with EtherPrint.

I can't remember the password I assigned to my EtherPrint, what should I do?

In case you are unable to remember the password that you assigned an EtherPrint, Dayna Customer Service can help. The number for customer service is (801) 269-7200. Should you need to call Dayna, please have the serial number from the EtherPrint setup screen handy. To protect your network's security, positive identification will be required.

Appendix A

Upgrading EtherPrint

This appendix explains how to upgrade the ROM on your EtherPrint from version 1.x to 2.x. It also outlines the differences you will notice when you use EtherPrint security software on an upgraded EtherPrint.

EtherPrint ROM Upgrade Instructions

The EtherPrint ROM Upgrade Kit contains everything required to upgrade an EtherPrint or EtherPrint *Plus* ROM. The upgrade should be performed by a competent service technician or the EtherPrint warranty may be voided. These instructions describe how the technician should perform the upgrade. EtherPrint ROM:upgrade instructions

The ROM Upgrade Kit consists of a new ROM in a protective case, two diskettes (*EtherPrint Administrator* and *Secure*) and this guide. Save the mailer and the ROM package to return the old ROM to Dayna Communications. You'll need a Philips screwdriver to open the EtherPrint box and an IC extraction tool or a small straight-blade screwdriver to remove the ROM chip.

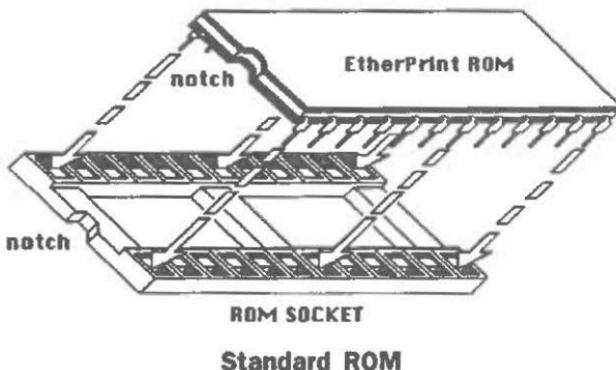
Here's how to replace the ROM.

1. Remove the two Philips screws on the back of the EtherPrint device. Holding the case, grasp the edge of the back panel, and slide the EtherPrint printed circuit card out of the case.
2. Locate the EtherPrint ROM. Looking down at the card with the component side up, the ROM is located in a corner of the card and is labeled:

EtherPrint
Version 1.n
Dayna © 1990

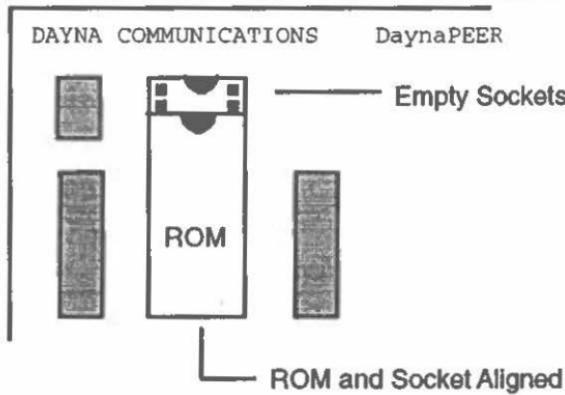
3. Remove the old ROM using an IC extraction tool or a straight-blade screwdriver. If you use a screwdriver, insert it under the ROM and work up both ends a little at a time.

4. Insert the new ROM in the socket as shown in the following figure. Make sure that the notch on the end of the ROM matches the notch on the socket, oriented towards the edge of the card.



Note—

If the white lettering on your printed circuit card identifies it as a DaynaPEER card, the ROM socket will have four extra slots. Note how the existing ROM is installed. Insert the new ROM so the empty sockets are located toward the edge of the card, and the end of the chip aligns with the end of the socket, toward the center of the card, as shown in the DaynaPEER ROM figure.



DaynaPEER ROM

Caution—

Don't install the ROM using the orientation of the text on the label. The chip must be installed so that the notch on the chip points toward the notch on the socket. If you power on the EtherPrint device and discover you've installed the ROM incorrectly, call Customer Service at 801-269-7200 immediately.

5. Align the pins with the socket and press down on the chip until it is completely seated in the socket. Make sure that no pins are bent under the ROM or are seated outside the socket.

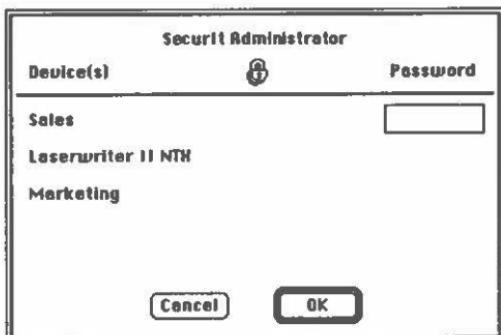
Reassemble the EtherPrint box and screw it back together. Place the old ROM in the packaging and mailer that came with the new ROM and return it to Dayna Communications at this address:

Dayna Communications, Inc.
Sorenson Research Park
849 West Levoy Drive
Salt Lake City UT 84123
(801) 269-7200

EtherPrint Device Security

If you are upgrading an EtherPrint version 1.x to version 2.x, you will not be able to assign unique passwords to each device connected to your EtherPrint. Instead, you will be able to assign one password to be applied to all of the connected devices. This is due to the smaller memory allowance on older hardware design and in no way impairs the functionality of your EtherPrint.

When you use EtherPrint Administrator the interface will be the same as described in Chapter 3. However, when you click on the SECURIT button in the Configuration window you will see this screen. Notice that a password field is shown next to the name of the EtherPrint (Sales, in our example) and applies to any connected devices.



If you assign a password in the blank field next to your EtherPrint, the devices connected to it will have secured access using that password. You will not be able to assign different passwords to the individual devices attached to EtherPrint. To access the LocalTalk devices connected to a password-protected EtherPrint, follow the SecurIt instructions in Chapter 4.

Note—

You will need to reassign EtherPrint to its appropriate zone location after the upgrade is complete.

Appendix B

Testing EtherPrint With SendEcho

If you can't see any of the devices connected to EtherPrint in the Chooser or using EtherPrint Administrator, and you've checked their power and cable connections, you can use SendEcho to help diagnose the problem. By using the SendEcho utility to communicate to a Macintosh, or other device, on the LocalTalk side of EtherPrint, you can isolate the problem.

You can also connect a Macintosh to the LocalTalk side of EtherPrint, with a printer, to verify that you can see the network through EtherPrint, and that you can also see the printer. This appendix explains how to use the SendEcho utility.

Using the SendEcho Utility

The SendEcho test utility is included on the *EtherPrint Administrator Disk*. You can use this utility to verify network communications after you've installed the EtherPrint hardware and software. The SendEcho icon looks like this:



SendEcho transmits data packets from one workstation (Source) to another (Target) on the network using the AppleTalk Echo Protocol. If the Target properly implements the AppleTalk Echo Protocol, it will send a packet back to the Source. If this cycle of request and response isn't completed, an error is recorded.

Note—

Running SendEcho intensively can create a heavy burden on the network. It's best to run this test when the network is not busy.

To use SendEcho, your network must have at least two Macintosh workstations.

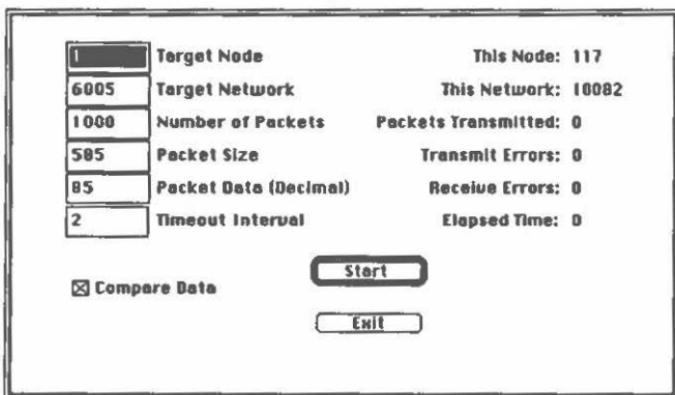
Note—

Run SendEcho between workstations or servers only. SendEcho may not work with modems, older printers, or other network devices which have not implemented the Apple Echo protocol.

Running SendEcho

You can run SendEcho from a floppy disk or from a hard disk. Here's how to run SendEcho.

1. Locate the SendEcho icon and double-click it. Select the zone and the node you want to use as a Target node from the SendEcho dialog box. Click the ECHO TEST button.
2. The Test dialog box will open. You can use the default settings or modify them.



3. When you are ready to begin the test, click the START button or press the RETURN key.

Note—

When the SendEcho test is running, the START button will turn to a STOP button and an arrow will appear below the EXIT button blinking in alternate directions as shown below. Each arrow indicates five packets.



4. To interrupt the test while it is running, press the RETURN key or click the STOP button. When the test finishes, the STOP button will change to a START button. To restart the test, click the START button or press the RETURN key.
5. The test will automatically stop when all packets have been transmitted. (The NUMBER OF PACKETS will be the same as the PACKETS TRANSMITTED.)
6. When your testing is complete, click the EXIT button. You'll return to the SENDECHO dialog box. Select QUIT from the FILE menu or press Command-Q to exit from SendEcho.

Interpreting Transmit and Receive Errors

A clean installation of EtherPrint should generate no errors for the SendEcho test.

Either TRANSMIT and RECEIVE errors can indicate that there is a problem with the network cable system, such as a disconnected device or cable, or defective cable termination.

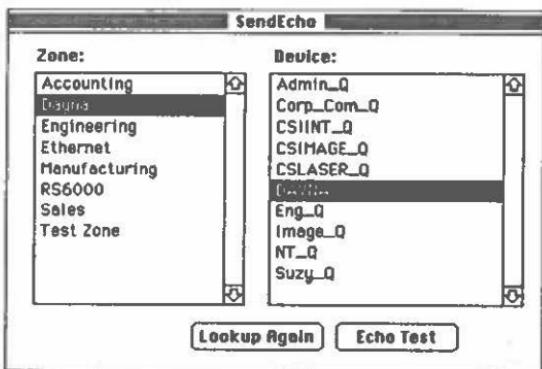
TRANSMIT ERRORS generally indicate that there is a severe problem with the cable, such as a cable break. TRANSMIT ERRORS will also occur if the Target node was turned off during testing.

RECEIVE ERRORS can also indicate cable system problems.

RECEIVE ERRORS occur if the Target node is in use when the test is running. If it is, the Target may miss some packets and generate Receive Errors. Wait until the device is not in use and run the test again.

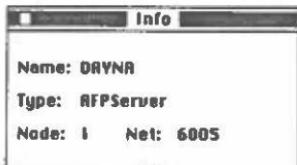
The SendEcho Dialog Box

To run SendEcho, double-click the SendEcho icon. This dialog box will open.



Network zones are listed in the ZONE list. SendEcho lists all the devices in the selected zone in the DEVICE list.

You can use the FILE menu GET INFO option or press Command-I to get information about the device selected in the DEVICE list. For example, if the DAYNA server is selected in the SendEcho DEVICE list, selecting GET INFO will display this INFO window:



You can scroll through the DEVICE list to get information about all the devices in your current zone. (Workstations must have the Responder installed in their System Folders to appear in the DEVICE list. If you are running System 7.x the Responder is part of the system. If you are running System 6.x the Responder is a separate item.) The INFO window automatically lists the name, device type, node number, and network number.

The network number is assigned to a cable segment during router installation. If your network doesn't use routers, this number is not significant. Node numbers are unique addresses assigned automatically to each network node during startup. Node numbers range from 1 to 254.

Clicking the LOOKUP AGAIN button lists the devices in the DEVICE list again. Clicking the ECHO TEST button or double-clicking the device name in the DEVICE list opens the Test dialog box.

Diagnosing Problems from the SendEcho Dialog Box

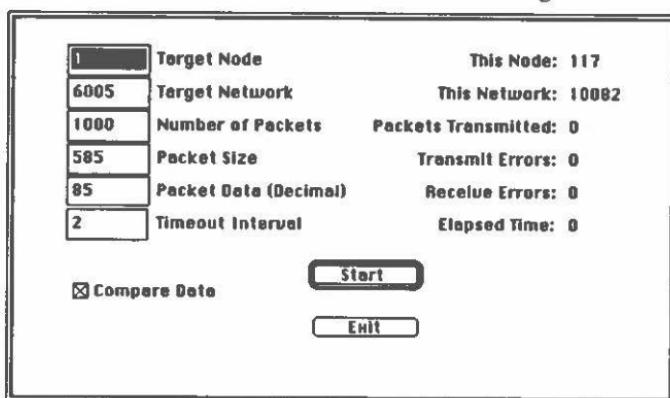
There are two conditions that indicate problems in the SendEcho dialog box: nothing appears in the list, or the Target node doesn't appear in the list. If nothing appears in the DEVICE list, answer these questions:

1. Have you selected the correct EtherTalk driver in the Network control panel? See the section **Identifying Which Protocol Your Network Uses** in Chapter 3 to learn how to select the correct EtherTalk Phase 1 or Phase 2 driver. Check with your network administrator to find out which phase your network uses.
2. Are the EtherPrint hardware and software installed correctly?
3. Is the network cable system connected to the Source computer correctly? Are there no breaks in the cable and is it terminated correctly?
4. Is there a malfunction in the EtherPrint hardware? If you've isolated the problem to the EtherPrint hardware, Appendix C describes how to contact Customer Service.

If the Target node doesn't appear in the DEVICE list, first check to see if it is switched on. Then answer questions one through four about the Target computer and the software and hardware it uses.

The Test Dialog Box

The TEST dialog box displays the values that will be used to test the Target device selected in the SendEcho dialog box.



The left side of the screen contains items whose settings you can change. Initially, use the default settings when you run SendEcho.

The COMPARE DATA check box makes SendEcho check the packets it sends out with the returned packets. If the packets sent do not match the packets received, SendEcho reports Receive Errors.

The rest of the SendEcho screen displays the following information.

Target Node

This field is automatically set to the node number of the device selected in the DEVICE list.

Target Network

This field contains the network number of the Target device selected in the DEVICE list.

Number of Packets

Default setting is 1000. This is a suggested number of packets to send for testing purposes. You can increase this to generate a lot of traffic.

Packet Size

Default setting is 585 bytes. This is the size of each packet being transmitted.

Packet Data (Decimal)

Default setting is 85. The packet data is the value of each byte in the packet, in this case 85.

Timeout Interval

Default setting is two seconds. This is the amount of time EtherPrint waits before retrying the line.

The following items on the right side of the screen will display numbers when the SendEcho test is running.

This Node

The node number of the station on which you are running SendEcho.

This Network

Reports the network number.

Packets Transmitted

This field will change to the word "Sending" or a number which changes when an error occurs. When the transmission is successfully completed, it will match the NUMBER OF PACKETS field.

Transmit Errors

The number of errors EtherPrint encounters while trying to transmit packets.

Receive Errors

The number of errors EtherPrint encounters while trying to receive packets.

Elapsed Time

The number of seconds it takes the SendEcho program to run.

Appendix C

Service, Support, Sales, and Specifications

Dayna Communications offers customers technical support, product information, and sales.

Technical Support

Technical support is free to any owner of a registered Dayna product. To register your product, fill out the warranty registration card included in the guide and mail it in or FAX it to (801) 269-7363. This will ensure that your Dayna EtherPrint is registered for its lifetime warranty. As a registered owner, you will receive the *Dayna Communiqué*, a newsletter that will keep you informed of product improvements and new product developments at Dayna.

Customer Service personnel are experts in using all Dayna products. They are available to help you when you run into problems not explained in this guide.

Before calling Customer Service, find the serial number on the bottom of your EtherPrint. Call (801) 269-7200 between 7:30 AM and 5:30 PM Mountain Time, Monday through Friday. Ask for Customer Service. Please have your product serial number ready when you call.

Customer Service maintains a 24-hour bulletin board that you can access to download the latest versions of drivers and other software.

Dayna Communications Bulletin Board

2400 Baud Modem	(801) 269-7398
14400 Baud Modem:	(801) 269-7399
Setup:	N81
Login:	Use your own name or company name

You can also contact Dayna Customer Service using the following on-line services under these ID names.

AppleLink:	DAYNA.TECH
InterNet Address:	DAYNA.TECH@applelink.apple.com
Connect:	DAYNA
America Online:	DAYNACOM

Dayna's mailing address is:

Dayna Communications, Inc.
Sorenson Research Park
849 West Levoy Drive
Salt Lake City UT 84123

Again, our service numbers are:

Customer Service	(801) 269-7200
FAX	(801) 269-7363 (269-SEND)

Product Information and Sales

Sales representatives are available to give you information about any Dayna product and to take your order. For product information or to place an order, call (801) 269-7200 and ask for Sales.

Specifications

EtherPrint and EtherPrint Plus Specifications

Operating Environment

Operating Temperature:	10° to 40° Centigrade
	50° to 104° Fahrenheit
Storage Temperature:	10° to 40° Centigrade
	50° to 104° Fahrenheit
Relative Humidity:	5% to 95% (noncondensing)
Altitude:	0 to 12,000 feet

Power

External 12VDC 0.8A adapter
100-130 or 210-250 VAC 50-60 Hz (factory configurable)
25 W maximum

Physical Description

Size: 5.5 in. x 7.75 in. x 1.5 in.
Weight: 14.4 oz.

Connectors and Cables

Ethernet:

- Built-in 802.3 thin Ethernet BNC connector
- BNC Y-connector
- 15-pin AUI port handles connections to thick Ethernet, Twisted Pair, or fiber-optic media through an external transceiver

Power Available: 11-14 VDC, 500 ma

LocalTalk:

- Standard Mini-Din-8 connector
- Mini-Din-8 to Mini-Din-8 cable, equivalent to an ImageWriter II cable
- Mini-Din-8 to DB-9 adapter cable

Certification

FCC Class A

Warranty

Lifetime

EtherPrint-T and EtherPrint-T Plus Specifications

Operating Environment

Operating Temperature:	10° to 40° Centigrade 50° to 104° Fahrenheit
Storage Temperature:	10° to 40° Centigrade 50° to 104° Fahrenheit
Relative Humidity:	5% to 95% (noncondensing)
Altitude:	0 to 12,000 feet

Power

External 12VDC 0.8A adapter
100-130 or 210-250 VAC 50-60 Hz (factory configurable)
25 W maximum

Physical Description

Size: 5.5 in. x 7.75 in. x 1.5 in.
Weight: 14.4 oz.

Connectors and Cables

Ethernet:

- IEEE standard 802.3 RJ-45 jack
- One IEEE std. 802.3 10BASE-T unshielded twisted-pair cable with RJ-45 plugs at each end
- 15-pin AUI port handles connections to thick Ethernet or fiber-optic media through an external transceiver

Power Available: 11-14 VDC, 500 ma

LocalTalk:

- Standard Mini-Din-8 connector
- Mini-Din-8 to Mini-Din-8 cable, equivalent to an ImageWriter II cable
- Mini-Din-8 to DB-9 adapter cable

Certification

FCC Class A

Warranty

Lifetime

EtherPrint-3 and EtherPrint-3 Plus Specifications

Operating Environment

Operating Temperature:	10° to 40° Centigrade 50° to 104° Fahrenheit
Storage Temperature:	10° to 40° Centigrade 50° to 104° Fahrenheit
Relative Humidity:	5% to 95% (noncondensing)
Altitude:	0 to 12,000 feet

Power

External 12VDC 0.8A adapter
100-130 or 210-250 VAC 50-60 Hz (factory configurable)
25 W maximum

Physical Description

Size: 5.5 in. x 7.75 in. x 1.5 in.
Weight: 14.4 oz.

Connectors and Cables

Ethernet:

- Built-in thin Ethernet BNC connector
- BNC Y-connector
- Built-in standard 802.3 RJ-45 jack
- 10BASE-T cable
- 15-pin AUI port handles connections to thick Ethernet or fiber-optic media through an external transceiver

Power Available: 11-14 VDC, 500 ma

LocalTalk

- Built-in 8 pin Mini-Din connector
- Mini-Din-8 to Mini-Din-8 cable, equivalent to an ImageWriter II cable
- Mini-Din-8 to DB-9 adapter cable

Certification

FCC Class A

Warranty

Lifetime

Glossary

activity light

The yellow light on the front of EtherPrint that verifies the hardware is working, that EtherPrint is communicating with the network, and that data is being transmitted through the device.

adapter cable

For use with some older LocalTalk printers, the DB-9-to-DIN-8 adapter cable has a DB-9 connector that attaches to a DB-9 printer port and a DIN-8 connector that attaches to the LocalTalk connector on EtherPrint.

AppleTalk

The Apple Computer network system. AppleTalk can be implemented on a variety of cable systems, including LocalTalk and Ethernet.

AUI port

The Attachment Unit Interface (AUI) port is a DB-15 connector that connects to thick Ethernet, fiber-optic, or compatible cable systems through an external transceiver.

BNC port

The BNC port on the EtherPrint back panel connects to thin Ethernet cable using a BNC Y-connector or T-connector.

EtherPrint Administrator

EtherPrint Administrator is a management tool for EtherPrint. You can use EtherPrint Administrator to give EtherPrint a name, assign it to a zone, give it a password, and assign passwords to the devices connected to it.

EtherTalk

The AppleTalk network software used with an Ethernet network.

external transceiver

External transceivers are needed to connect thick Ethernet or fiber-optic cables to EtherPrint. Typically, the transceiver box connects to the Ethernet trunk line and uses a transceiver cable with an AUI connector to attach to devices such as EtherPrint.

fiber-optic cable

Fiber-optic cables transmit digital signals as light pulses. Fiber optic cable connections are made through an AUI port using an external transceiver.

link status light

On EtherPrint models that support 10BASE-T, the light next to the RJ-45 jack. The link status light is lit when the 10BASE-T cable is plugged in correctly to a working network hub.

LocalTalk

One type of cable system used to link computers and peripheral devices in an AppleTalk network system. LocalTalk connectors are built in to every Macintosh computer and LaserWriter printer.

LocalTalk connector

The EtherPrint LocalTalk port is an 8-pin connector. You'll plug one end of the LocalTalk printer cable into this EtherPrint port and the other end into the LocalTalk-compatible printer.

LocalTalk printer cable

EtherPrint comes with a DIN-8-to-DIN-8 printer cable to connect to the LocalTalk printer.

power light

The green power light on the front of EtherPrint-T is always on when EtherPrint is plugged in and off when it's not.

RJ-45 Jack

The connector on the back of the EtherPrint device that accepts the RJ-45 plug on one end of a 10BASE-T cable.

SecurIt

SecurIt is a security protocol that requires EtherPrint to request a password from a Macintosh on the network before it will allow access to any LocalTalk device that is attached to it.

SendEcho

A test utility that can help you determine if EtherPrint is communicating properly after installation.

10BASE-T cable

An Ethernet cable system using unshielded twisted-pair wiring with RJ-45 eight-conductor plugs at each end. 10BASE-T cable standards are defined by the IEEE standard 802.3.

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849 West Levoy Drive
Salt Lake City, UT 84123

For Technical Service and Support, call (801) 269-7200